CLAIMS:

What is claimed is:

1. A cook and soak process using at least one each kettle, soak tank, grain hopper, hydrosieve, hopper, and washer, said process comprising the steps of:

a) placing at least one grain product into a kettle with an aqueous alkaline solution to form an alkaline mixture;

b) separating said alkaline mixture into a supernate layer and a slurry layer;

c) draining said slurry and maintaining substantially all said supernate in said kettle to be used with a next alkaline mixture;

d) soaking said slurry in a soak tank;

e) transporting said slurry to a hopper via a push water stream wherein said push water stream comprises recycled water from a collection tank and wherein said slurry is substantially drained of liquid and becomes substantially a grain;

f) transporting said grain from said hopper to a hydrosieve;

g) draining excess water from said grain;

h) transporting said grain from said hydrosieve to a washer;

i) washing said grain in said washer with a fresh wash water;

j) draining said fresh wash water of step i) to said collection tank for recycle at step e).

k) transporting said grain to a further process.

2. The method of Claim 1, wherein said grain comprises corn.

3. The method of Claim 2, wherein said alkaline mixture comprises lime.

4. The method of Claim 3, wherein said slurry is drained at step c) until the supernate has reached a pre-determined level in said kettle.

5. The method of Claim 4, wherein said pre-determined level is determined by monitoring a vibration frequency in a slurry discharge line.

6. The method of Claim 4, wherein said recycled water further comprises fresh water wherein an amount of fresh water in said collection tank is regulated by a level control.

7. The method of Claim 3, wherein said alkaline mixture at step a) is heated to a predetermined temperature.

8. The method of claim 7 wherein said alkaline mixture is cooked for a period of time.

9. The method of claim 8 wherein said alkaline mixture is then cooled with water.

10. The method in claim 3 wherein said drained fresh wash water from said collection tank at step j) is routed to at least one solids separation device and is then routed back to said collection tank.

11. The method in claim 10 wherein said solid separation device comprises stainless steel.

12. The method in claim 10 wherein said solid separation device comprises a hydroclone.

13. The method in claim 3 wherein said drained fresh wash water at step j) is routed to a solid separation device prior to being sent to said collection tank.

14. A grain based product made by the method of claim 1.